

**National Institutes of Health  
Warren Grant Magnuson Clinical Center  
Nursing and Patient Care Services**

**Policy:** Preparation of Parenteral Admixtures

The Pharmacy Department is responsible for preparing all parenteral solutions with additives. In an urgent situation or when the preparation and timely delivery of parenteral solution to a patient care unit is not feasible, i.e., drug with a short-stability or a delay in administration may result in patient discomfort, a nurse may add a drug to a parenteral solution using Clinical Center-approved emergency stock. The following conditions and restrictions apply:

- Preparation of parenteral admixtures by a nurse is restricted to use of Clinical Center-approved emergency stock drugs and short-stability products as identified by the Pharmacy.
- A medical order is required indicating the desired diluent, volume, and infusion time.
- A nurse may not add more than a single drug to a parenteral solution.
- A nurse may not add a drug to a parenteral solution already containing an additive without first consulting with a pharmacist for a compatibility and stability information.
- A nurse may not prepare parenteral solutions that contain anticoagulants, cytotoxic agents, insulin, investigational drugs, potassium chloride or potassium phosphate, controlled substance admixtures containing multiple doses or for continuous infusion, digoxin, or TPN/PPN.
- Nurses use aseptic technique on a clean surface in a clean, well-lit, low-traffic area to prepare a parenteral solution with an additive.

**Purpose:** To define instances when it is appropriate for a nurse to prepare a parenteral solution with an additive and to minimize the risk of patient or staff injury and/or complications.

**Procedures:** Parenteral solutions are labeled with fully completed, Clinical Center approved “Medication Added” label containing:

- the patient’s name and date of birth
- date/time of preparation
- initials of the nurse who prepared the admixture
- drug name and drug dose added to the parenteral solution.

When a high alert drug is prepared for administration by a nurse, an independent double-check is performed during the drug preparation process to validate the right drug, dose, route, and concentration in

accordance with the SOP: Medication Administration. The initials of both nurses are recorded on the “Medication Added” label.

**Addendum:** List of High Alert Drugs

**References:**

1. Nurse Practice Act, Annotated Code of Maryland (2003)
2. SOP: Medication Administration (DRAFT, 2003).
3. M92-8 Intravenous Potassium Chloride Infusions
4. M93-13 Policy for the use of multi-dose and single-dose vials for injection.
5. M94-7 Direct Intravenous Injection of Therapeutic and Diagnostic Agents (IV Push)

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Clare Hastings, RN, PhD  
Chief, Nursing & Patient Care Service

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Charles E. Daniels, Ph.D.  
Chief, Pharmacy Department

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## Addendum: Preparation of Parenteral Admixtures

### 2003 High-Alert Drugs

High Alert Category	Route	Examples
Insulin	IV, SC, insulin pump	SC-Regular U-100, NPH, Lente, NPH 70/30, Humalog mix 75/25, Ultralente, Regular U-500  IV- regular insulin  SC via insulin pump- Lispro insulin
Hypertonic sodium chloride	IV	3% NaCl
IV opiates  IV benzodiazepine infusions	IV	morphine, hydromorphone, fentanyl  midazolam, lorazepam
Concentrated (undiluted) electrolytes	IV	Potassium chloride, potassium phosphate, magnesium sulfate, calcium gluconate, calcium chloride
IV anticoagulants	IV	Heparin
Cytotoxic agents	IV, SC, PO	Many
Neuromuscular blocking agents	IV	Cisatracurium, rapacuronium, pancuronium, succinylcholine